(No Model.) 2 Sheets—Sheet 1.

C. A. HASKINS.

DISH WASHING MACHINE.

No. 457,317. Patented Aug. 4, 1891.

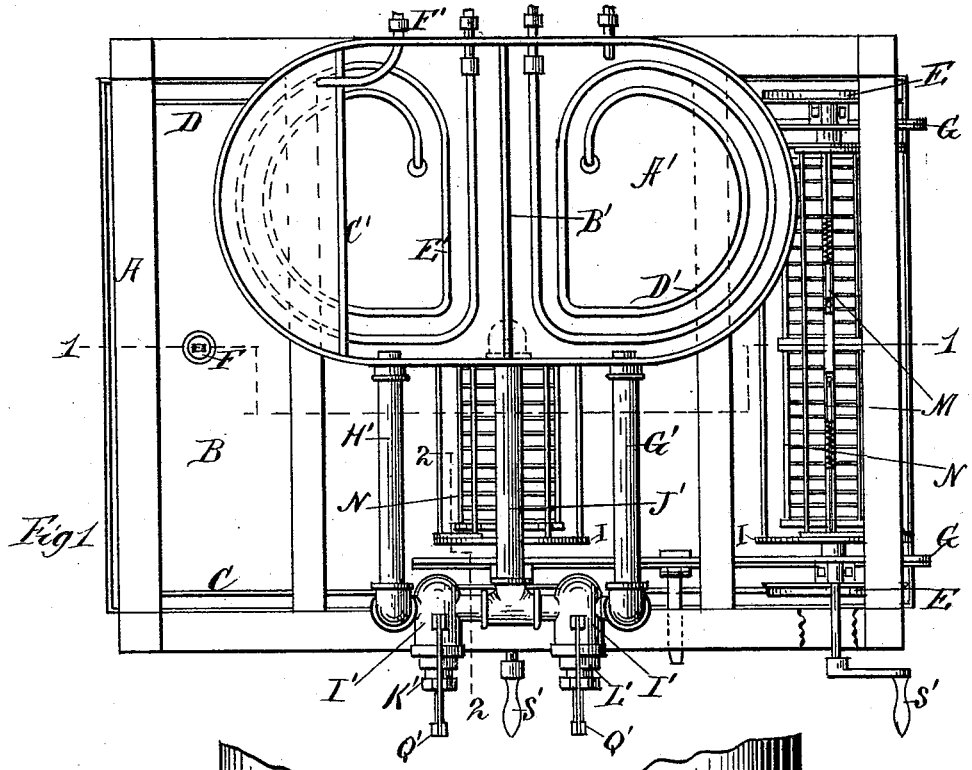

Fig 1

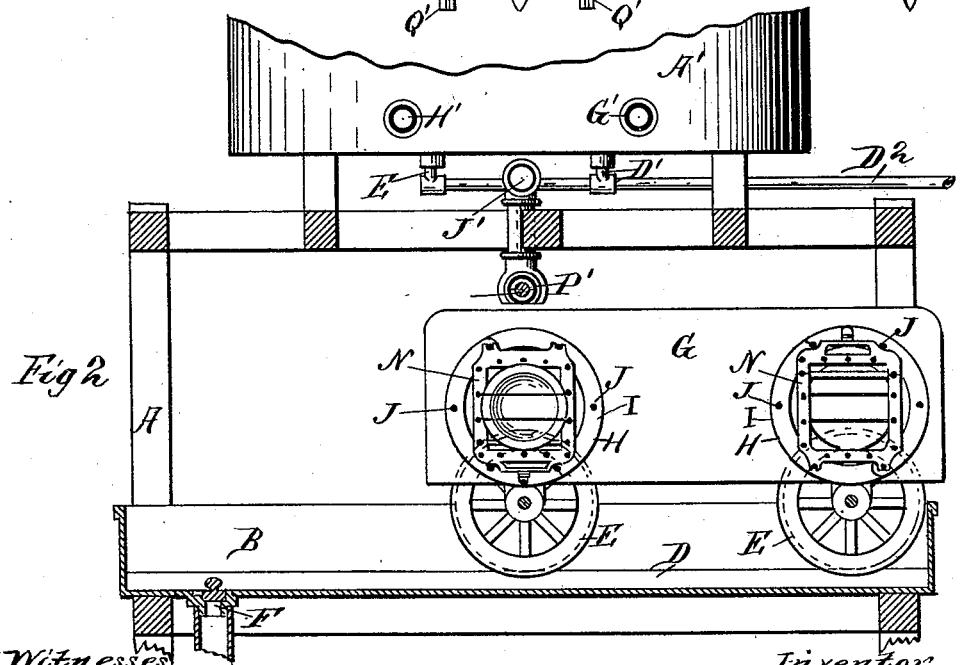

Fig 2

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Inventor
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(No Model.) 2 Sheets—Sheet 2.

C. A. HASKINS.

DISH WASHING MACHINE.

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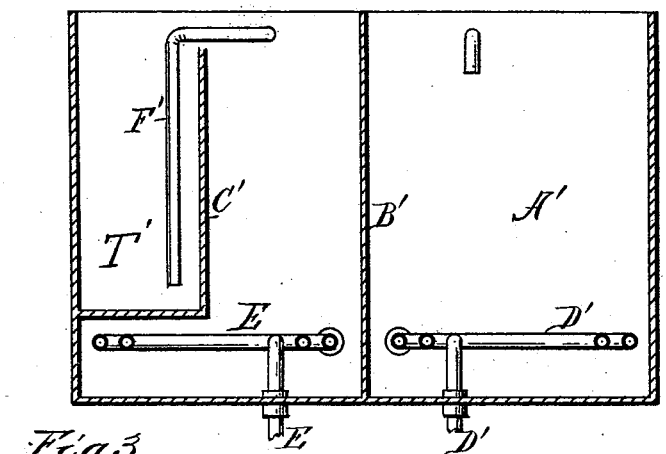

Fig 3

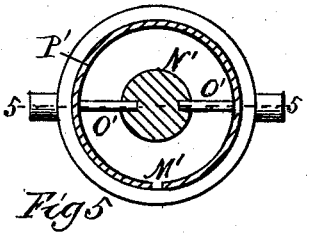

Fig 5

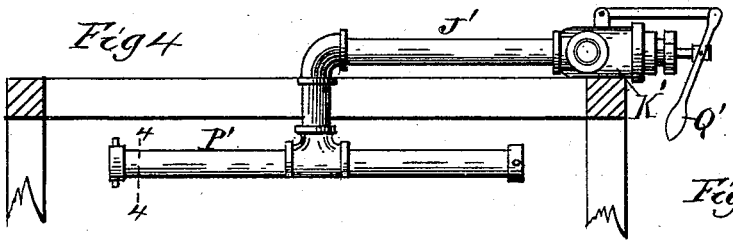

Fig 4

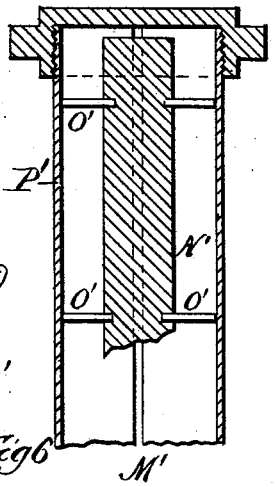

Fig 6

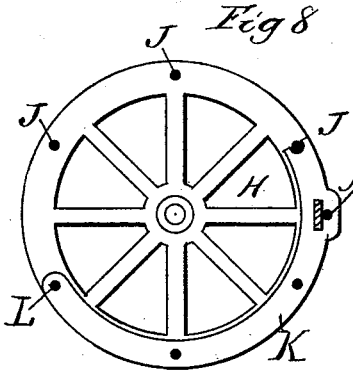

Fig 8

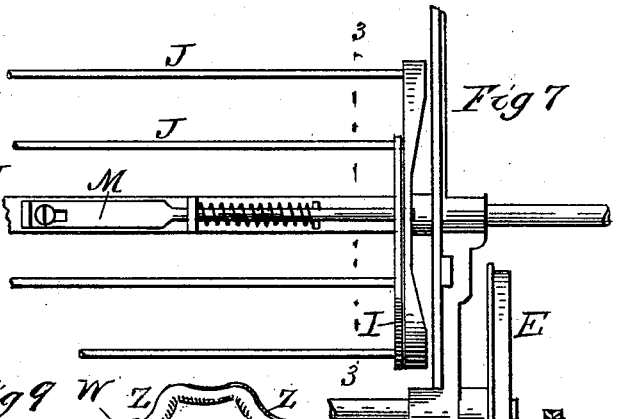

Fig 7

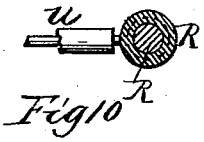

Fig 10

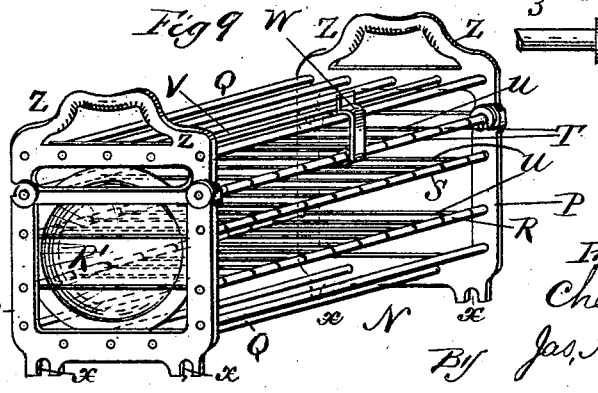

Fig 9

Witnesses
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Inventor
Chas. A. Haskins
By Jas. A. Cowles
Atty

UNITED STATES PATENT OFFICE.

CHARLES A. HASKINS, OF CHICAGO, ILLINOIS, ASSIGNOR TO GILBERT MONTAGUE, OF SAME PLACE.

DISH-WASHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 457,317, dated August 4, 1891.

Application filed June 18, 1888. Serial No. 277,435. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. HASKINS, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Dish-Washing Machines, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view. Fig. 2 is a vertical section on line 1 1 of Fig. 1. Fig. 3 is a vertical section of the hot-water tank. Fig. 4 is a transverse section on line 2 2 of Fig. 1, showing a side elevation of the washing-tube and its connection with the valve for controlling the flow of water; Fig. 5, a cross-section of the washing-tube on line 4 4 of Fig. 4, enlarged; Fig. 6, an enlarged horizontal section of one end of the washing-tube. Fig. 7 is a side elevation of one end of the basket-rack, also showing a part of the car in which it is placed. Fig. 8 is a cross-section of the rack on line 3 3 of Fig. 7, showing one end of the rack. Fig. 9 is a perspective view of a dish-holding basket, and Fig. 10 is a sectional detail of one of the longitudinal rods and part of a cross-rod, broken off, of the basket.

The object of this invention is to construct a dish-washing machine which is simple in construction and efficient in operation, which I accomplish, as illustrated in the drawings, and hereinafter described. That which I claim as new will be pointed out in the claims.

In the drawings, A indicates the frame which may be made of any suitable number of posts and cross-bars. At or near the bottom of this frame is placed a basin or water-receptacle B, which, as shown, is provided with rails C D and a discharge-pipe F. On the rails C D is mounted a car G, which is supported by and moved upon the wheels E E. Within this car I place two or more racks H, which receive the dish-holding baskets. These racks are provided with circular heads I, which heads are connected by the longitudinal rods J. A portion of these rods J are attached directly to the heads I, and a portion of them to the segmental bars K, which segmental bars are hinged to the heads I by the pivots L. These bars K extend nearly half-way around the heads I and are held in place by the sliding bolt M, or by other suitable fastening. This arrangement furnishes a large door in the rack through which the baskets may be inserted or removed. The heads I are provided with axles or short shafts which extend through the sides of the car, and one of them for each rack is extended out for receiving the crank S′, by which they may be rotated when the machine is in use.

The car G, as shown, is mounted upon four flanged wheels which are connected by axles and which run upon the tracks C D; but I do not limit myself to this method of support or moving the car.

It will be understood that the body G of the car is open at the bottom so as not to retain any water therein.

The basket N is formed of the heads or end pieces O P, connected together by the rods Q R S T. The longitudinal rods Q form the top and bottom of the basket, the upper ones being connected with the hinged parts of the heads and together form a door or cover V, which is held down or fastened by the clasp or hook W. The rods R, S, and T have corresponding rods on opposite sides of the basket and are connected together by the cross-rods U, which divide the basket into sections or compartments, each adapted to receive one dish. The basket shown is adapted to the washing of plates, one of which is shown at R′. It will be understood that each machine is provided with a number of baskets adapted to receive and hold dishes of various forms and sizes, and that the disposition or arrangement of the cross-rods U will be varied in the different baskets to adapt them to their special uses, and for small dishes a greater number of longitudinal rods may also be used. These baskets N are to be placed in the revolving racks, and for the purpose of securing them in place the heads or end pieces O P are provided with notches X, which fit onto two of the rods J, as shown in Fig. 2. The cover-section of the basket is provided with curves or notches Z, which fit against rods J of the cover-section of the revolving rack, so that when the rack-cover is closed the baskets are held securely in place. The ends of the basket-covers are also cut out, so as to form convenient handles for lifting or moving them. The longitudinal and cross rods

of the basket are best made of brass or copper wire, and they are provided with any suitable elastic coating or covering, as shown in Fig. 10, which tends to prevent the breakage or nicking of the dishes.

As shown, the tank A′ rests upon and is supported by the frame A. As shown, the tank A′ is divided into two compartments by the division-plate B′, and one of the compartments is subdivided by the plates C′, so as to form a small compartment T′, in which may be placed soda or soap, if desired. Water is introduced into this tank by suitable inlet-pipes located near the top of the tank. A pipe F′ delivers the water into the chamber or compartment T′. Near the bottom of the tank is placed steam-heating coils D′ and E′ for heating the contained water, and the coils are connected with a steam-generator by any suitable pipe or pipes. Hot water pipes G′ and H′ lead from the tank to a common pipe I′, which pipe I′ is provided with valves K′ L′, which valves are operated by the levers Q′, as shown in Fig. 4, or in any other convenient manner. The pipe I′ is connected near its middle with a pipe J′, which is connected by suitable couplings with the wash-pipe P′, as shown in Fig. 4. By this arrangement of pipes and valves hot water may be taken from either tank exclusively, or partly from both. It will be understood that when water at a high temperature—as at or near the boiling-point—is used, soda or soap is not required, and when in use under such high temperatures one section of the heater-tank may be used for heating while the other is being exhausted, and thus make the operation of the machine practically continuous without the use of a large tank, while in washing with water with a low temperature soda or soap may be used, being placed in the compartment T′, as before stated. The use of water of high temperature is preferred, as it not only does away with the necessity for using soda or soap, but it also heats the dishes, so that they become dry without wiping and with a more certain result of thorough washing. The wash-pipe P′ is nearly or quite the length of a basket or of two baskets when two are used in the same rack and placed together endwise. The under side of this pipe is slotted at M′, as shown in Figs. 5 and 6, which slot is to be made practically continuous or in such manner as to discharge the water in a thin flowing sheet instead of spraying it. When the water is discharged in a sheet or sheets, no portion of the dishes in the baskets can escape contact with the water, as they are liable to do when the water is sprayed unless a large quantity is used. As shown, the pipe P′ is provided with a spreader-rod N′, which is supported in place by pins O′, as shown in Figs. 5 and 6, and it is placed within the pipe before the end cap is applied. This spreader-rod occupies a considerable portion of the interior space of the pipe P′, and its principal use is to spread the water so that the discharge near the ends of the pipe P′ will be nearly or quite equal to the discharge at the middle, and in producing this result it does not materially interfere with or check the course of the descending water.

The car G is so arranged that while the dishes in one rack are being washed the baskets in the other racks may be taken out and other baskets put in their places, the frame being so arranged that the baskets may be lifted from the racks or placed therein at either end of the frame. By this construction and arrangement dishes can be rapidly and safely washed without the manipulation heretofore supposed to be necessary to clean them.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a machine for washing dishes, a basket for holding dishes, in combination with a pipe having a longitudinal discharge-slot and a spreader, substantially as described.

2. In a machine for washing dishes, a movable car provided with a basket-receiving rack, in combination with a pipe having a longitudinal discharge-slot and a spreader, substantially as described.

3. The combination of the slotted pipe P′ and pipes J′ and I′ with the valves K′ L′, pipes G′ H′, and tank A′, having the division-plate B′, substantially as specified.

4. The wash-pipe P′, having a substantially continuous slot from end to end, in combination with the spreader N′, substantially as and for the purpose specified.

CHARLES A. HASKINS.

Witnesses:
JAS. A. COWLES,
W. A. PHELPS.